Remarks

Claims 5, 14, 15, 18 and 19 are cancelled, and new claims 24 to 28 are added, so that claims 1-4, 6-13, 16, 17 and 20-28 are pending. Claims 2 and 5-21 were withdrawn from further consideration. Claims 2, 5-13, 16, 17 and 20 have been amended so that they now depend directly or indirectly from claim 1, and are thereby currently amended for consideration within the elected Group.

Claim 11 is amended to recite additional cell cycle stages, as for example disclosed beginning at page 34, line 15. Claim 12 has been amended to refer to the second regulatory region, which is for example discussed on page 68, beginning at line 16. New claims 24-28 are supported in the disclosure as follows. Claim 24 is supported at p. 59, lines 22-27 and Figure 1. Claim 25 is supported at page 63, lines 8-11 and Figures 3b and 4. Claim 26 is supported page 63, lines 11-15 and Figures 4, 9 and 11. Claim 27 is supported at page 71, lines 5-7 and 16-20 and Figure 9. Claim 28 is supported at page 75, lines 31 through page 76 line 4, and Figure 11.

After entry of this amendment, claims 1-4, 6-13, 16-17, and 20-28 are pending.

Rejections under §112

The objections under 35 U.S.C. 112, first paragraph, are respectfully traversed. However, to expedite prosecution, claim 1 is amended herein in keeping with the Examiner's suggestion as to the scope of enabled subject matter. In particular, claim 1 is amended to recite *in vitro* transformation of host cells with a DNA construct.

Rejections under §102

With respect to the rejection under §102(e), it is respectfully submitted that the cited art (US 2003/0082800 A1) does not teach or suggest the use of self-priming gene targeting message RNA. Instead, in the cited reference, the description of the reverse transcriptase primer, the "primer binding site (PBS)", makes it clear that this primer is NOT self-priming, and in fact requires a tRNA, as set out in paragraph 62 therein, as follows:

[0062] The primer binding site (PBS) for initiation of priming for cDNA synthesis is located between the 3' IR and the polyadenylation signal. The PBS is a sequence that is complementary to a transfer RNA (tRNA) which is resident within the eukaryotic target cell. In the case of the mouse Maloney reverse transcriptase (MoMULV RT) described herein as being utilized in conjunction with the present invention, the PBS takes advantage of the proline tRNA. The PBS utilized in connection with the presently preferred embodiment of the invention that is described herein was taken from the actual 18 nucleotide sequence region of mouse Moloney virus. Shinnick, T. M., et al., Nucleotide sequence of Moloney murine leukemia virus, 293 Nature 543-548 (1981). [Note that this RT has a similar priming mechanism: HIV-1 reverse transcriptase specifically interacts with the anticodon domain of its cognate primer tRNA. EMBO J 1989 Nov;8(11):3279–3285.] In the case of the RT gene from human immunodeficiency virus that was also tested as noted below, the PBS used was taken from the nucleotide sequence of HIV. Y. Li, et al., 66 J. Virology 6587-6600 (1992). In short, any PBS that is matched to a particular RT is utilized for this purpose. The PBS is exclusively recognized by a primer tRNA that is endogenous to the target cells. Each tRNA has the ability to recognize a unique sequence (i.e., codon) on the mRNA transcript coding for an amino acid, and has the ability to covalently link to a specific amino acid (i.e., the tRNA becomes "charged" when bound to a specific amino acid). However, a primer tRNA, when bound to the mRNA transcript PBS and not covalently linked with an amino acid (i.e., "uncharged"), may be used to initiate ssDNA synthesis by the RT. For example, the MoMULV RT used in the examples described herein recognizes and uses an uncharged lysine tRNA that in turn recognizes and binds to its unique sequence in the PBS. Thus, each PBS incorporated into the expression system of the present invention must contain the unique sequence recognized by the primer tRNA, and the primer tRNA must be a primer tRNA that is recognized by the particular RT utilized.

The cited prior art does not therefore teach or suggest the use of a gene targeting message RNA that is capable of self-priming reverse transcription. Accordingly, it is submitted that the cited art does not anticipate the presently claimed invention. In this context, it is relevant that there is an important potential difficulty associated with the approach to RT priming taken in the cited art. While self-priming in accordance with the present invention may be made to be effective to mediate reverse transcription in the nucleus, particularly where the RT comprises a nuclear localization signal sequence, a primer that depends on the presence of a particular tRNA may be ineffective in the nucleus when the tRNA is not present in the nucleus in adequate amounts.

Formal Matters

Applicants thank the Examiner for providing a signed copy of the Information Disclosure Statement (IDS) Form 1449 received by the Office on September 19, 2005, thereby

acknowledging that the listed references were considered. Applicants note that the second reference on page 13 of the Form 1449 might be interpreted as having not been signed as reviewed. Applicants therefore request that the Examiner affirmatively confirm in the next communication that this reference (Moncalian *et al.*, 1997) was in fact considered. For ease of reference, Applicants provide herewith a copy of the relevant page of the Form 1449, as Exhibit A.

Concluding Statement

Based on the foregoing amendments and arguments, it is respectfully submitted that the claims are in condition for allowance and notification to this effect is requested. If any issues remain, the Examiner is formally requested to contact the undersigned attorney (direct) at 503-595-8583 prior to issuance of a further Office action, in order to arrange a telephonic interview. This request is being submitted under MPEP § 713.01, which indicates that an interview may be arranged in advance by a written request.

Respectfully submitted,

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